

Working Towards Scale Speeds

I have often thought that we sometimes drive our engines too fast. Some engines motions are a mere blur and quite unrealistic. Now that the ground level track is virtually complete I felt it was an opportune time to look at the speed we ought to be driving our trains of scale wagons and carriages, more in line with full size practise.

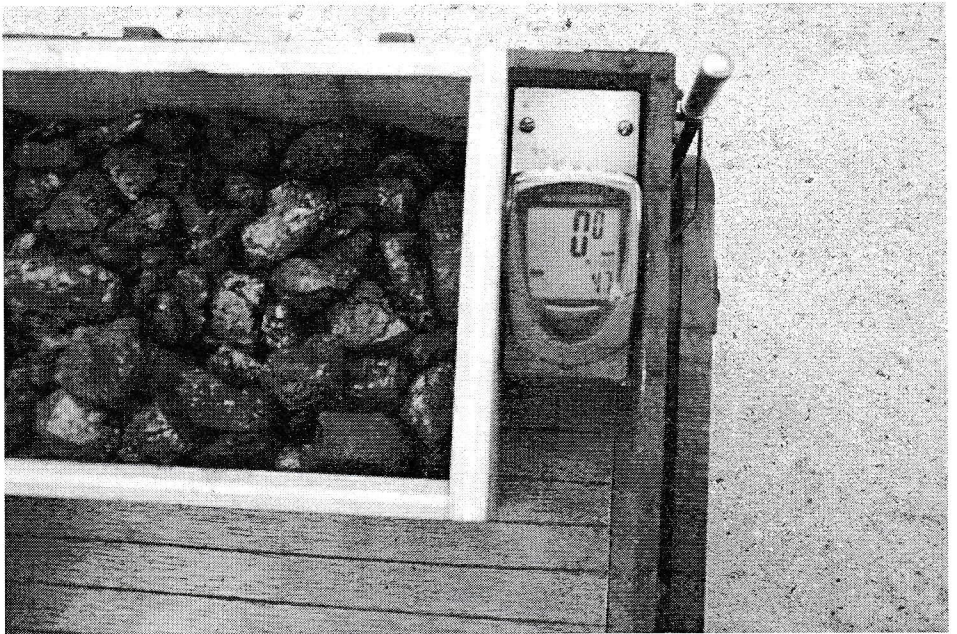
As far as I can ascertain in the days of steam the speed(s) of trains were categorised by the type of train i.e.: coaches/wagons being hauled. I have compiled a table below which should explain the limitations imposed.

Class 1	Express Passenger	80mph (MaX100mph)
Class 2	Local Passenger	50mph (Max 60mph)
Class 3	Parcels	50mph (Max 70mph)
Class 4/6	Fitted Freight	50mph (Max 60mph)
Class 5/7	Semi-fitted Freight	45mph Max
Class 8	Freight with fitted head	40mph Max
Class 9	Freight Unfitted	30mph Max

This is fine but how do we measure what scale speed we are doing? Well the answer is to fit a speed measuring device to our driving truck and one that is ideal for the application is the Speedo's that are sold for fitting to pedal cycles. The ones we are interested in operate by using a non contact magnetic sensor system which records the revolutions of the wheels. The magnet which induces the pulse to the sensor can be screwed, or similar to the axle or wheel of one of the wheel sets.

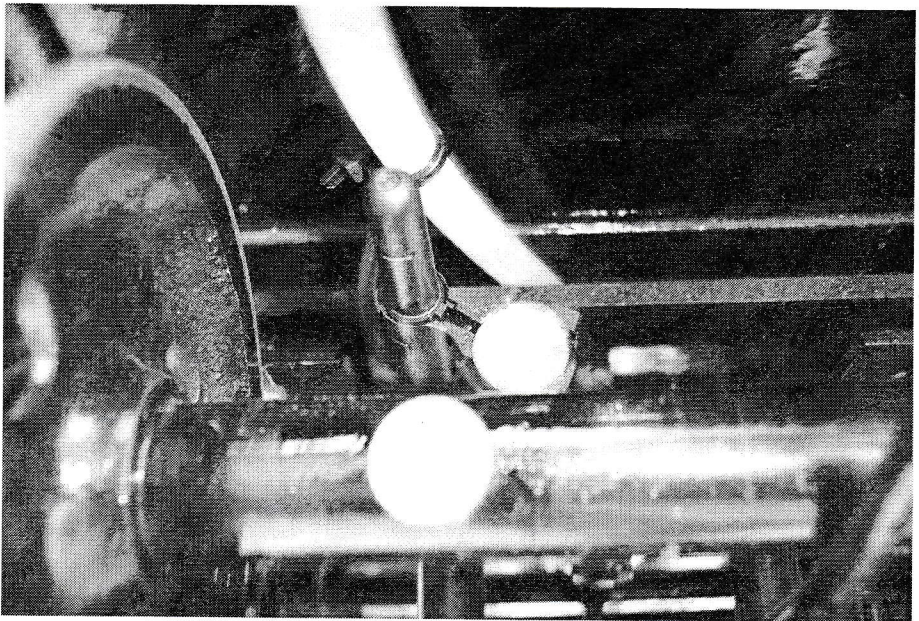
The sensor can be placed at any convenient position on the chassis or bogie.

To achieve scale speeds we programme one in as if it were the full size wagon wheels which were 3'1". You will find that the programming requires you to input the wheel/tyre *circumference* in cm. In the case of the 'scale' wheel 3'1" equates to 295cm. I had a lot of help from 'Cateye' who are well known manufactures of cycle accessories; lamps etc and they advise that the best bicycle computer units to suit our requirements are their Enduro 8, Velo 8 and Mity 8. All of these are wired units, 'Cateye' felt that the wireless ones that are also available might be a bit suspect in our application. If you need more info look at their website www.zyro.co.uk



This picture shows the mounting of the Speedo display on my driving truck. The actual display head is demountable but I leave it in place for safe keeping. They automatically power down after a period of inactivity.

The next picture illustrates the mounting of the sensor (Black pencil object). I have attached it to a fixed point that has some offset built in. This allows for some final setting once in situ. The bright object on the wheel set axle left of centre is the activating magnet. The gap between the two in service is nominally 5mm.



What does this mean in the way we drive our trains - well the first thing to notice is that the scale speed seems really slow, especially on unfitted freight trains. Remember the requirement is to stick to the limit going downhill as well as going up hill. It is even more pronounced on the elevated track as you cannot charge down hill to give yourself inertia to go up hill. These really sorts out the engines which do not have valves set quite right or are poor steamers. It is OK to travel around at a scale 150mph, this does not require much finesse and the speed will overcome shortcomings in valve events and fool us into thinking everything is rosy. I suggest that you try pulling a load of trucks around at a scale 30mph and see if your engine likes it (mine didn't!)

So next time you pull the coaches or some wagons around the track be it elevated or ground, give it a go. It will look a lot more realistic and you may even get to like it!

Mike Gipson

TREASURERS UPDATE

We welcome the following new members,
Miss Emily Colley
Gavin Sherriff
Antoni De-Roy
Simon Bullimore
Membership now stands at 131 including 4 juniors.

SUBSCRIPTION RENEWALS DUE 1ST JANUARY 2008

David Cocks

FROM A UK PAPER

We apologize for the error in the last edition, in which we stated that 'Mr Fred Nicolme is a Defective in the Police Force'. This was a typographical error.

We meant of course that Mr Nicolme is a Detective in the Police Farce.